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ESG Now Podcast
"Biodiversity 101"

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Gabriela De La Serna: Hello and welcome to the weekly edition of ESG. Now, the show that explores how the environment, our society and corporate governance affects and are affected by our economy. I'm Gabriela de Lana and I'll be your host for today's episode. On today's show, we're going to be talking about biodiversity and we'll be answering the questions about the biodiversity crisis that perhaps you are too afraid to ask. Today we'll be discussing why investors should care about it as much as climate. We'll also discuss why it is such a complex topic to tackle, and then we'll explain how can investors start their biodiversity journey now? So let's jump right in.

Gabriela De La Serna: Biodiversity or the diversity of and among species and ecosystems if we want to be precise, is everywhere. It's the backbone of your food production. It's the genetic source of your next blockbuster drug. It stabilizes the soil, cleans the water. It is metaphorically the bread and butter of an investor's portfolio that bread and butter is under threat. Let me explain how with an example in the Brazilian Amazon, there has been this historic drought. This drought has ruined entire corn cassava and bean harvests, and prevented shipping lanes from being open due to low water levels. Now, scientists have found the reason behind this historic drought deforestation. Over the last 50 years, the resilient Amazon has lost a fifth of its forest cover predominantly due to illegal deforestation. And this has been triggering a chain of effects on the region's climate because as we also know, climate and biodiversity are interdependent.

Gabriela De La Serna: So the climate and biodiversity crisis can't really be solved without the other, which means that investors that care about climate might need to start thinking about biodiversity as well. But the company aspects you pay attention to for biodiversity are different and more complex than for climate. And there's two main reasons for this. First climate has the universally accepted a ton of CO2 as the metric of choice, whereas for biodiversity laws, or in this case the forestation in the Amazon, there are multiple drivers and pressures at play. So it isn't a one size fits all kind of situation. And then the second reason is location. Again, with climate, this is relatively easy as emissions have a global impact regardless of their geographic origin. But for biodiversity, we really need to consider the specific location of the activity to be able to measure impact. So in response to this complexity, there is a whole new suite of research points and metrics that investors and asset owners will need to understand if they want to help prevent or even understand the biodiversity crisis. But don't fret, because today we're going to have an explainer on biodiversity, and I have my colleague Arne Klu with me, who is an expert on all things biodiversity, and he's one of the authors of a paper that just got published titled An Investor's Guide to Nature and Biodiversity Risks and Impacts Pretty handy. Right? Let's start off with RNA to give us an idea as to why biodiversity is so complex.

Arne Klug: Yeah, so basically measuring biodiversity is very complex because the natural world is very complex because the nature, everything is connected, all the species and the ecosystem interact and depend on each other in some way. And it's also the reason why it's really hard to measure how specific human action or corporate action can impact biodiversity. And even in the academic world, there's no standard approach how to quantify biodiversity footprint. And some approaches cover the direct operations of a company. Others include the supply chain, others also focus on the downstream phase when products are used. Also the time horizons differ. You can look at the past impacts if the annual impact or potential future impacts. But normally biodiversity footprint starts by identifying the direct drivers of biodiversity loss caused by the company. These are called pressures.

Gabriela De La Serna: And what is hard about those pressures is they're often best seen using geospatial data, which includes satellite imagery, maps, and other spatial data where you can literally see changes in the environment. But that sort of data is often hard to come by and not readily disclosed by companies. That's one reason why measuring biodiversity is complex. It's also complicated because companies have both direct and indirect impacts on biodiversity. Let me explain that to you. A direct impact could be an oil spill caused by an oil and gas company, which then could lead to long-term damage to marine and or terrestrial ecosystems, and that's a bit easier to measure. But then there's the indirect impact, which happens at the company's supply chain level. Take palm oil, for instance. If you're a food company, many of your products will contain palm oil, biscuits, granola, et cetera. And palm oil is associated with negative impacts on biodiversity such as deforestation to convert an entire ecosystem into monoculture palm oil plantations. But because these activities take place further down the food company's supply chain, the food company may lack the ability to accurately measure this impact. So figuring out what the direct and indirect biodiversity impacts of a company can be challenging and more so getting the right data to measure it. But there are some data points that can be used as a proxy for when disclosures are limited.

Arne Klug: And to give you an example, a gold mine operator in the tropics, the company has cleared the forest to build a mine. It uses water and chemicals in the production. The machines at the mine generate GHG emissions. And once you know how much land, water or GHG emissions the company uses or generates at the specific asset, you can basically link these pressures to potential impacts on biodiversity. So land use of the mine could destroy the habitat of species of animals and plants. Operations could also cause water stress and pollution at the forest. And you can basically then aggregate all these impacts at the company or asset level and calculate the biodiversity footprint. And the question might be how to do that simply by applying academic models. And there's no standard approach and the universal metric, but one common metric is the potentially disappeared fraction of species PDF. And this metric tells you to what extent a company contributed to global species extinction risks in this case, to what extent, like this gold mine and this operations could lead contributes to global species extinction. So it's a quite complex process behind all that, but the signal itself is relatively clear.

Gabriela De La Serna: The potential disappeared fraction of species or the PDF measures the company's contribution to global species laws, companies activities create environmental pressures on nature through greenhouse gas emissions, water consumption, toxic emissions, and so on. With A PDF, we can model how these pressures can result in species loss. So metrics like PDF are useful for investors that are concerned as to how their investments directly affect the world's biodiversity. But this isn't the only concern for investors out there. Many investors will also want to understand how can nature loss impact the bottom line of companies because companies revenues can be dependent on ecosystem services. For instance, there's this drug called quinene, and quinene is derived from the bark of the cent tree and was first discovered by indigenous stripes in Peru. Now, Quinene ended up becoming a drug used for treatment of malaria and has helped protect millions of lives each year and made its manufacturers millions of dollars.

Gabriela De La Serna: Now, if that tree was cut down, we have no Quin and we have no malaria treatment and we have no company value. And this sort of thing plays out all over the healthcare system. A quarter of all modern western drugs are actually derived from rainforest plants, but only less than 5% of Amazon plant species have actually been studied for potential medical benefits. So really this should all matter to you. If you're an investor investing in r and d pharmaceutical companies as tropical forest degradation is likely to limit the pool of genetic material the company may need to discover or develop new drugs. Now, measuring the exact impact of nature loss on a company's activities is extremely complex. So there's no universal metric out there that we found to look at this. But as a proxy, we can look at company's revenues and assets exposed to nature loss, and this can give us an understanding of how reliant the company is on ecosystem services, or in this case, rainforest plant species to develop new drugs. And finally, there are investors that might care about biodiversity, not only to find out how their portfolio can impact nature or vice versa, but simply because companies that don't develop biodiversity friendly practices might be exposed to reputational damage and compliance costs. Here's RNA describing these risks.

Arne Klug: There are many examples that really go beyond the simple reputational damage or NGO criticism. I mean, if you look back in history, the older ESG people will remember the deep water horizon oil spill that had severe impacts on marine biodiversity, and the companies involved had to pay record fines and cleanup costs, really financial impacts on those companies. But there also have been more recent examples of companies that had to pay substantial fines due to the impact on nature, chemical producers, plastic manufacturers, pine oil producers, mining companies, and so on. And we cannot also expect more of these cases in the future because regulations are tightening. The European Parliament passed a new regulation on deforestation free supply chains earlier this year. So all companies in the U will face mandatory due diligence rules with respect to certain commodities and that drive deforestation. So certainly also more like operational risk for companies if they don't meet certain rules here beyond simple reputational damage. And so we don't really have to wait for NGOs or stakeholders to take deforestation cases, for example, to quote. So these stringent regulations pose really operational risks to companies,

Gabriela De La Serna: And that is where much of the change in climate investing started in a way regulations. So the European climate law or the Paris Agreement, which to be precise, is illegal binding international treaty. But what has been done for biodiversity is considerably less. But there are some regulations that look at the problem. For instance, there's the EU taxonomy, which recognizes the protection of biodiversity and ecosystems as one of the six environmental objectives that companies cannot have an adverse impact on. So if a company represents a significant harm towards its objective, then a company's activity cannot be recognized as sustainable, and it is likely due to complexity of biodiversity. That regulatory response has historically been slower compared to climate. Climate has the ease of being about carbon emissions, which again, compared to biodiversity impacts is really easy to measure. But this sort of varietal availability means there could be more opportunity for positive contributions to biodiversity that investors can support or put money into. I asked arn about this, the ability for impact investors to help protect the world's biodiversity

Arne Klug: In order to protect nature and biodiversity. We do not only need more stringent regulations, we also need product innovation, and investors could profit from that growing demand and invest in companies that develop products of a positive impact on nature. Just think of pollution prevention technologies, water treatment solutions, waste management, sustainable agriculture, alternative protein, and so on. At the same time, it's not that easy to find companies in the public space that develop such products because innovation often happens in the private sector. But we could expect that more and more companies will seize the business opportunities linked to biodiversity nature, even in the public space.

Gabriela De La Serna: So the message is clear, the biodiversity crisis is real and its impact on society, and the global economy is very much real. And as new reporting requirements and policies starts to catch up, the financial sector has already started to focus on the risks and opportunities related to nature loss. Partly because these risks are relevant to all investors in the same way that investors take transition and physical risks seriously. And for those willing to go one step further, there are new investment opportunities for those willing to make a positive contribution to biodiversity. But most importantly, the breadth of opportunities and complexity that comes with biodiversity also means that investors will now be pushed to think about it alongside climate rather than after it. And that is it for this week and massive thanks to Arne for his take on the news with an EOG twist. And thanks to you for tuning in and sticking around. Don't forget to rate and review us, and if you enjoy listening to us every Friday, go ahead and click the subscribe button. Thanks again and we'll catch you next week.

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